

CLAIMS

1. A constant velocity universal joint comprising: an outer member provided with a spherical inner surface in which a plurality of track grooves are formed; an inner member provided with a spherical outer surface in which a plurality of track grooves are formed; balls disposed in wedge-shaped ball tracks which are formed by the synergy between the track grooves of the outer member and the track grooves of the inner member; and a retainer disposed between the spherical inner surface of the outer member and the spherical outer surface of the inner member to hold the balls, the balls always making contact with the ball tracks by preload applying means, wherein

the constant velocity universal joint further comprising a hollow connecting shaft having an axial end section having teeth which are engaged with an engagement section of the inner member, and a middle section continued from the axial end section; and

a ratio $r3 (= dm/DOUTER)$ of an outside diameter (dm) of the middle section of the connecting shaft to an outer diameter ($DOUTER$) of the outer member is $0.26 \leq r3 \leq 1.0$.

2. A constant velocity universal joint according to claim 1, wherein a ratio $r2 (= DOUTER/PCDSERR)$ between the outside diameter ($DOUTER$) of the outer member and a pitch circle diameter ($PCDSERR$) of the teeth in the engagement section of the inner member is set in a range of $3.0 \leq r2 \leq 5.0$.

3. A constant velocity universal joint according to claim 1 or 2, wherein the hollow connecting shaft is molded by means of drawing an end section of a pipe material with an outside diameter (dm).

4. A constant velocity universal joint wherein the constant velocity universal joint as set forth in any of claims 1 to 3 is used for steering.